

CLAIMS

What is claimed is:

1. A convertible roof latch for a vehicle, said vehicle having a tonneau cover positionable in a closed position and an opened position, said convertible roof latch comprising:

a top stack mechanism being positionable in an extended position and a retracted position; and

a locking mechanism operable to selectively retain said top stack mechanism in said retracted position to generally prevent movement of said top stack mechanism, said locking mechanism being positionable in an unlocked position where said top stack mechanism is free to move relative to said locking mechanism and a locked position where said top stack mechanism is coupled with said locking mechanism when the tonneau cover is in the closed position to prevent relative movement of said top stack mechanism and said locking mechanism.

2. The convertible roof latch according to Claim 1 wherein said locking mechanism comprises:

a latch member extending from said top stack mechanism;

a support bracket mountable to the vehicle;

a striker pivotally coupled to said support bracket, said striker having a slot for receiving said latch member of said top stack mechanism in said locked position; and

a locking pawl pivotally coupled to said support bracket, said locking pawl being releasably engageable with said striker when said top stack mechanism is in said retracted position and said tonneau cover is in said closed position.

3. The convertible roof latch according to Claim 2 wherein said locking pawl is biased into engagement with said striker.

4. The convertible roof latch according to Claim 2, further comprising:

an actuator cable operably coupled to said locking pawl, said actuator cable urging said locking pawl into a disengaged position from said striker when said tonneau cover is in said opened position.

5. The convertible roof latch according to Claim 2 wherein said striker is biased into said unlocked position.

6. The convertible roof latch according to Claim 2, further comprising:

a recess formed in one of said striker and said support bracket; and
a physical stop member extending from the other of said striker and said support bracket, said physical stop member being operable to engage said recess to prevent over rotation of said striker.

7. The convertible roof latch according to Claim 2 wherein said slot comprises:

a plurality of progressive locking features operable to receive said locking pawl at intermediate positions of said top stack mechanism.

8. A convertible vehicle comprising:

a roof covering;

a tonneau cover positionable in a closed position and an opened position;

a top stack mechanism supporting said roof covering, said top stack mechanism having a stud extending therefrom, said top stack mechanism being positionable in an extended position and a retracted position; and

a locking mechanism operable to selectively retain said stud when said top stack mechanism is in said retracted position to generally prevent movement of said top stack mechanism, said locking mechanism being positionable in at least an unlocked position where said stud and said top stack mechanism are free to move relative to said locking mechanism and a locked position where said stud and said top stack mechanism are coupled with said locking mechanism when the tonneau cover is in the closed position to prevent relative movement of said top stack mechanism and said locking mechanism.

9. The convertible vehicle according to Claim 8 wherein said locking mechanism comprises:

a support bracket mountable to the convertible vehicle;

a striker pivotally coupled to said support bracket, said striker having a slot for receiving said stud of said top stack mechanism in said locked position; and

a locking pawl pivotally coupled to said support bracket, said locking pawl being releasably engageable with said striker when said top stack mechanism is in said retracted position and said tonneau cover is in said closed position.

10. The convertible vehicle according to Claim 9 wherein said locking pawl is biased into engagement with said striker.

11. The convertible vehicle according to Claim 9, further comprising:

an actuator cable operably coupled to said locking pawl, said actuator cable urging said locking pawl into a disengaged position from said striker when said tonneau cover is in said opened position.

12. The convertible vehicle according to Claim 9 wherein said striker is biased into said unlocked position.

13. The convertible vehicle according to Claim 9, further comprising:

a recess formed in one of said striker and said support bracket; and
a physical stop member extending from the other of said striker and said support bracket, said physical stop member being operable to engage said recess to prevent over rotation of said striker.

14. The convertible vehicle according to Claim 9 wherein said slot comprises:

a plurality of progressive locking features operable to receive said locking pawl at intermediate positions of said top stack mechanism.

15. A convertible roof latch for a vehicle, said vehicle having a tonneau cover positionable in a closed position and an opened position, said convertible roof latch comprising:

a top stack mechanism having a latch member, said top stack mechanism being positionable in an extended position and a retracted position;

a support bracket mountable to the vehicle;

a striker pivotally coupled to said support bracket, said striker having a receptacle for receiving said latch member of said top stack mechanism; and

a locking pawl pivotally coupled to said support bracket, said locking pawl being releasably engageable with said striker when said top stack mechanism is in said retracted position and said tonneau cover is in said closed position to prevent movement of said top stack mechanism.

16. The convertible roof latch according to Claim 15 wherein said locking pawl is biased into engagement with said striker.

17. The convertible roof latch according to Claim 15, further comprising:

an actuator cable operably coupled to said locking pawl, said actuator cable urging said locking pawl into a disengaged position from said striker when said tonneau cover is in said opened position.

18. The convertible roof latch according to Claim 15 wherein said striker is biased into said unlocked position.

19. The convertible roof latch according to Claim 15, further comprising:

a recess formed in one of said striker and said support bracket; and

a physical stop member extending from the other of said striker and said support bracket, said physical stop member being operable to engage said recess to prevent over rotation of said striker.

20. A method of releasably retaining a convertible roof system of a vehicle, said convertible roof system having a roof structure, a top stack mechanism supporting said roof structure and having a retaining feature, a pivotable striker member engageable with said retaining feature, a locking pawl engageable with said pivotable striker member, and a tonneau cover, said method comprising:

retracting said top stack mechanism;

engaging said pivotable striker member with said retaining feature and driving said pivotable striker member into a locked position; and

moving said tonneau cover from an opened position to a closed position, said movement of said tonneau cover from said opened position to said closed position causing said locking pawl to engage said pivotable striker member thereby generally deterring movement of said top stack mechanism.

21. The method according to Claim 20, further comprising:

moving said tonneau cover from said closed position to said opened position, said movement of said tonneau cover from said closed position to said opened position causing said locking pawl to disengage from said pivotable striker member; and

extending said top stack mechanism.

22. The method according to Claim 20, further comprising:
biasing said locking pawl in said engagement with said pivotable striker member.

23. The method according to Claim 20, further comprising:
biasing said pivotable striker member into an unlocked position.

24. The method according to Claim 20, further comprising:
preventing over rotation of said pivotable striker member.

25. A method of releasably retaining a convertible roof system of a vehicle, said convertible roof system having a roof structure, a top stack mechanism supporting said roof structure, a pivotable striker member engageable with said top stack mechanism, a locking pawl engageable with said pivotable striker member, and a tonneau cover, said method comprising:

retracting said top stack mechanism;

engaging said pivotable striker member with said top stack mechanism and driving said pivotable striker member into a locked position; and

positioning a tonneau cover into a closed position causing said locking pawl to engage said pivotable striker member to prevent movement of said top stack mechanism.

26. The method according to Claim 25, further comprising:
positioning said tonneau cover into an opened position causing said locking pawl to disengage from said pivotable striker member; and
extending said top stack mechanism.

27. The method according to Claim 25, further comprising:
biasing said locking pawl in said engagement with said pivotable striker member.

28. The method according to Claim 25, further comprising:
biasing said pivotable striker member into an unlocked position.

29. The method according to Claim 25, further comprising:
preventing over rotation of said pivotable striker member.

30. The method according to Claim 25 wherein said positioning said tonneau cover into said closed position causing said locking pawl to engage said pivotable striker member to prevent movement of said top stack mechanism includes engaging said locking pawl with at least one of a plurality of locking features formed in said pivotable striker.